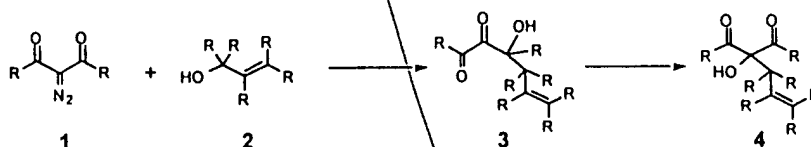


GLYCOSYLATED INDOLOCARBAZOLE SYNTHESIS**Abstract**

Tertiary alcohols containing the structural features illustrated in 3 or 4 below (Scheme I) are prepared by reacting at least one diazo carbonyl compound, *e.g.*, 1 in Scheme I) and at least one allylic alcohol (*e.g.*, 2 in Scheme I) in a coupling reaction run under conditions that produce carbene or carbenoid intermediates from the diazo-containing substrate such as transition metal catalysis or either thermal or photochemical decomposition. In some preferred embodiments, $\text{Rh}_2(\text{OAc})_4$ is employed to catalyze the coupling reaction.

Scheme I

Wherein R represents a substituent comprised of any number and combination of the elements H, C, N, S, Si, O, Cl, Br, I, and F

Indolocarbazoles (*e.g.*, 7 below) are prepared by coupling of diazo carbonyl compounds (*e.g.*, 5) and biindoles (*e.g.*, 6). Indolocarbazoles are furanosylated (*e.g.*, 7) with acetals (*e.g.*, 8) or their open chain congeners (*e.g.*, 9) under conditions known to promote acetal exchange or formation, such as protic or Lewis acids. Furanosylated indolocarbazoles (*e.g.*, 10) are also prepared via ring contraction of pyranosylated indolocarbazoles (*e.g.*, 11) under conditions known to effect oxidation and benzylic acid type rearrangements, and pyranosylated indolocarbazoles (*e.g.*, 11) are prepared via ring expansion of the furanosylated congeners (*e.g.*, 10).

Scheme II